



SLOVENSKI STANDARD

SIST EN 15888:2014

01-julij-2014

Premične plinske jeklenke - Snopi jeklenk - Periodični pregledi in preskusi

Transportable gas cylinders - Cylinder bundles - Periodic inspection and testing

Ortsbewegliche Gasflaschen - Flaschenbündel - Wiederkehrende Inspektion und Prüfung

Bouteilles à gaz transportables - Cadres de bouteilles - Contrôles et essais périodiques

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EUROPEAN STANDARD

EN 15888

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2014

ICS 23.020.30

English Version

Transportable gas cylinders - Cylinder bundles - Periodic inspection and testing

Bouteilles à gaz transportables - Cadres de bouteilles -
Contrôles et essais périodiques

Ortsbewegliche Gasflaschen - Flaschenbündel -
Wiederkehrende Inspektion und Prüfung

This European Standard was approved by CEN on 19 January 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 15888:2014) has been prepared by Technical Committee CEN/TC 23 “Transportable gas cylinders”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2014, and conflicting national standards shall be withdrawn at the latest by October 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This European Standard has been submitted for reference into the RID and/or the technical annexes of the ADR. Therefore, in this context, the standards listed in the normative references and covering basic requirements of the RID/ADR not addressed within the present standard are normative only when the standards themselves are referred to in the RID and/or the technical annexes of the ADR.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

The principal aim of a periodic inspection and testing procedure is that at the completion of the test the cylinder bundles may be reintroduced into service for a further period of time.

Experience of the inspection and testing of cylinder bundles which is specified in this European Standard is an important factor when determining whether a cylinder bundle should be returned into service.

Periodic inspection and testing of the bundle are carried out in line with the retest period of the cylinders within the bundle and are a legal requirement in order to comply with Directive 89/655/EEC as amended by Directive 95/63/EC as implemented into National Legislation within the European Union.

NOTE In this standard 'retest' is used as a synonym for 'periodic inspection and test'.

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1 Scope

This European Standard specifies the requirements for the periodic inspection and testing of cylinder bundles containing compressed, liquefied and dissolved gas. It is also applicable to cylinder bundles containing acetylene.

This European Standard includes information regarding the maintenance of cylinder bundles.

This European Standard does not cover the requirements for cylinder bundles when they are a part of a battery vehicle. For some specific application, e.g. offshore, additional requirements may apply.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1089-3, *Transportable gas cylinders - Gas cylinder identification (excluding LPG) - Part 3: Colour coding*

EN 1802, *Transportable gas cylinders - Periodic inspection and testing of seamless aluminium alloy gas cylinders*

EN 1968, *Transportable gas cylinders - Periodic inspection and testing of seamless steel gas cylinders*

EN ISO 7225, *Gas cylinders - Precautionary labels (ISO 7225)*

EN ISO 10462, *Gas cylinders - Acetylene cylinders - Periodic inspection and maintenance (ISO 10462)*

EN ISO 10961, *Gas cylinders - Cylinder bundles - Design, manufacture, testing and inspection (ISO 10961)*

EN ISO 11623, *Transportable gas cylinders - Periodic inspection and testing of composite gas cylinders (ISO 11623)*

EN ISO 15996, *Gas cylinders - Residual pressure valves - General requirements and type testing (ISO 15996)*

EN ISO 22434, *Transportable gas cylinders - Inspection and maintenance of cylinder valves (ISO 22434)*

ISO 25760, *Gas cylinders — Operational procedures for the safe removal of valves from gas cylinders*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

compressed gas

gas which, when packaged under pressure, is entirely gaseous at -50 °C (including all gases with a critical temperature $< -50\text{ °C}$)

3.2

main valve

valve which is fitted to the manifold and which is used for the isolation of the bundle

EN 15888:2014 (E)**3.3****cylinder bundles**

transportable assembly which consists of a frame and two or more cylinders each of capacity up to 150 l and with a combined capacity of not more than 3 000 l, or 1 000 l in the case of toxic gases, connected to a manifold by cylinder valves or fittings such that the cylinders are filled, transported and emptied without disassembling

3.4**frame**

structural and non-structural members of a bundle which combine all other components together, whilst providing protection for the bundle's cylinders, valves and manifold and which enable the bundle to be transported

3.5**cylinder valve**

valve which is fitted into a cylinder and to which a manifold is connected in a bundle

3.6**cylinder fitting**

component with no gas shut-off capability which serves as a method for connecting a bundle's manifold to its individual cylinders when cylinder valves are not fitted to the cylinders

3.7**manifold**

pipng system for connecting a bundle's cylinder valves or cylinder fittings to the main valve(s) or main connection(s)

3.8**main connection**

means of making a gas connection to a bundle [SIST EN 15888:2014](#)

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3.9**tare weight**

weight of the bundle including all permanent fittings, when empty of gas

Note 1 to entry: To be understood as "tare mass" as per RID/ADR.

3.10**maximum gross weight**

sum of the tare weight of the bundle and the maximum permissible filling weight

Note 1 to entry: In International Standards, weight is equivalent to a force, expressed in Newtons. However, in common parlance (as used in terms defined in this European Standard), the word "weight" continues to be used to mean mass, although this practice is deprecated (see ISO 80000-4).

Note 2 to entry: To be understood as "maximum gross mass" as per RID/ADR.

3.11**liquefied gas**

gas which when packaged under pressure for transport is partially liquid at temperatures above $-50\text{ }^{\circ}\text{C}$

Note 1 to entry: A distinction is made between:

- a) high pressure liquefied gas; a gas with a critical temperature between $-50\text{ }^{\circ}\text{C}$ and $+65\text{ }^{\circ}\text{C}$; and
- b) low pressure liquefied gas; a gas with a critical temperature above $+65\text{ }^{\circ}\text{C}$.

3.12**proof test pressure**

hydraulic or pneumatically applied pressure which demonstrates the structural integrity of the manifold

3.13**working pressure**

settled pressure at a uniform temperature of 288 K (15 °C) for a full bundle

3.14**competent person**

someone who has the necessary technical knowledge, experience and authority to assess and approve repair processes and to define any special conditions of use that are necessary

Note 1 to entry: Such people will also normally be formally qualified in an appropriate technical discipline.

3.15**helium test gas**

leak testing gas mixture containing not less than 2 % helium

4 List of procedures for periodic inspections and tests

Each bundle shall be submitted to periodic inspections and tests. The procedures shown in a) to f), where applicable, form the requirements for such inspections and tests and are explained more fully in later clauses:

- a) identification of cylinders/bundles and preparation for inspection and tests;
- b) depressurization of manifold and individual cylinders;
- c) disassembly of the bundle including safe de-valving and removal of cylinder fittings;
- d) cylinder periodic inspection and test (see EN 1802, EN 1968, EN ISO 11623 or EN ISO 10462);
- e) assessment of the cylinder bundle frame, manifold and valve condition (including cylinder and main valves);
- f) bundle assembly and testing.

5 Inspection and tests**5.1 General**

Depending upon the nature of the operation, an existing cylinder bundle may, upon dismantling, be reassembled using the same frame, cylinders and components. Alternatively, frames, cylinders and components may be interchanged for ease of operation during the periodic inspection and testing.

If at any stage, replacement of any part of the bundle (frame, cylinders or components) takes place, the new parts shall be compatible with the original design type specification.

5.2 Identification of cylinders/bundles and preparation for inspection and tests

On receipt for inspection, the gas content within the bundle shall be identified.

Before any work is carried out, the relevant cylinder data and ownership shall be identified.